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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/056,855

11/13/2001

Armin Amrhein

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3772

31625

7590

05/02/2006

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PATENT DEPARTMENT
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EXAMINER

KISS, ERIC B

ART UNIT

PAPER NUMBER

2192

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/056,855	Applicant(s) AMRHEIN ET AL.	
	Examiner Eric B. Kiss	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7-9,11,13-15,17-19,21,24 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7-9,11,13-15,17-19,21,24 and 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 February 2006 has been entered.

Claims 1, 3-5, 7-9, 11, 13-15, 17-19, 21, 24, and 27-30 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-5, 7-9, 11, 13-15, 17-19, 21, 24, and 27-30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1, 3-5, 7-9, 11, 13-15, 17-19, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,987,249 to Grossman et al. in view of U.S. Patent No. 6,513,154 to Porterfield; U.S. Patent No. 6,708,290 to Swoboda et al.; and U.S. Patent No. 5,339,419 to Chan et al.

As per claim 1, *Grossman et al.* discloses a device for editing a control program comprising a display (see, for example, col. 5, lines 8-16), and a device for compiling the control

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program (see, for example, col. 5, lines 2-8), wherein the compiling device is used to produce from the control program an intermediate code which contains debug instrumentation for the control program (see, for example, col. 5, lines 25-43). *Grossman et al.* further discloses the intermediate code being microprocessor-independent (see, for example, col. 6, lines 35-37).

Grossman et al. fails to expressly disclose upon manual input by a user the editing device being operable to graphically indicate a marking of an area of the control program for debugging.

However, *Porterfield* teaches the use of an editor to mark an area of a control program for debugging, which results in the selective generation of corresponding instrumentation (see, for example col. 17, lines 9-15) and *Swoboda et al.* teaches the graphical marking of source code for selective debugging (see, for example, Figs. 15 through 18, and col. 14, line 59, through col. 15, line 47).

Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to modify the apparatus of *Grossman et al.* to include such marking and graphical indication via an editor as per the teachings of *Porterfield* and *Swoboda et al.* One would be motivated to do so to reduce the overhead incurred by instrumenting code and allow dynamic determination of relevant debugging information through a convenient interface.

Grossman et al. further fails to disclose the use of two separate systems with separate compilers for implementing the prescribed apparatus. However, *Chan et al.* teaches that it has been known to employ a first compiler in a first system to produce an intermediate representation and to transfer this intermediate representation to another system having another compiler for transforming the intermediate representation into machine-dependent code (see, for example, see, for example, Fig. 2 and its associated text). Therefore, it would have been obvious to one of

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ordinary skill in the computer art at the time the invention was made to further modify the system of *Grossman et al.* to include such separate systems/compiler. One would be motivated to do so to gain the advantages of facilitating installation of the developed software product on multiple platforms at multiple sites.

As per claim 3, *Grossman et al.* further discloses a data storage device for association information for associating the marked area of the control program with an area of the intermediate code (see, for example, col. 12, lines 45-51 and col. 18, lines 22-36). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 4, *Grossman et al.* further discloses an order unit for dispatching an observation order for the marked area (see, for example, col. 18, lines 37-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 5, *Grossman et al.* further discloses a reception device for receiving observation information (see, for example, col. 18, lines 47-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 7, *Grossman et al.* further discloses an observation module using the debug instrumentation (see, for example, col. 18, lines 37-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 8, *Grossman et al.* further discloses a data buffer for storing and providing observation information from the observation module (see, for example, col. 18, lines 47-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 9, *Grossman et al.* further discloses a device for receiving an execution order for the observation module (see, for example, col. 18, lines 47-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 21, *Grossman et al.* further discloses the control program being a cyclic control program (see, for example, col. 12, lines 39-44). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claims 11, 13-15, 17-19, and 24, these are method versions of the claimed apparatus discussed above (claims 1, 3-5, 7-9, and 21, respectively), wherein all limitations have been addressed as set forth above. For reasons stated above, such claims also would have been obvious.

5. Claims 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Grossman et al.*, *Porterfield*, and *Chan et al.*, as applied to claims 1 and 11 above, and further in view of U.S. Patent No. 5,784,621 to Onishi et al.

As per claims 27-30, in addition to the disclosure and teachings applied above, *Grossman et al.* fails to expressly disclose displaying the control program in a first window and the debug information, including variable values in a second window. However, *Onishi et al.* teaches such a display of the control program and debug information, including variable values, within separate windows, *i.e.*, rectangular display regions (see, for example, Fig. 6 and its associated text). Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to further modify the system and method of *Grossman et al.* to include such simultaneous display of a control program and corresponding debug information.

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One would be motivated to do so to facilitate easier debugging by providing a visible context for the debugging information.

Conclusion

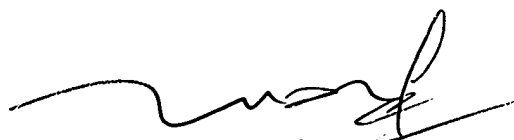
6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (571) 272-3699. The Examiner can normally be reached on Tue. - Fri., 7:00 am - 4:30 pm. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature should be directed to the TC 2100 Group receptionist: 571-272-2100.

EBK/EBK
April 27, 2006


TUAN DAM
SUPERVISORY PATENT EXAMINER